

Cost Adjustment Claim CAC1: lumpy maintenance expenditure

Overview

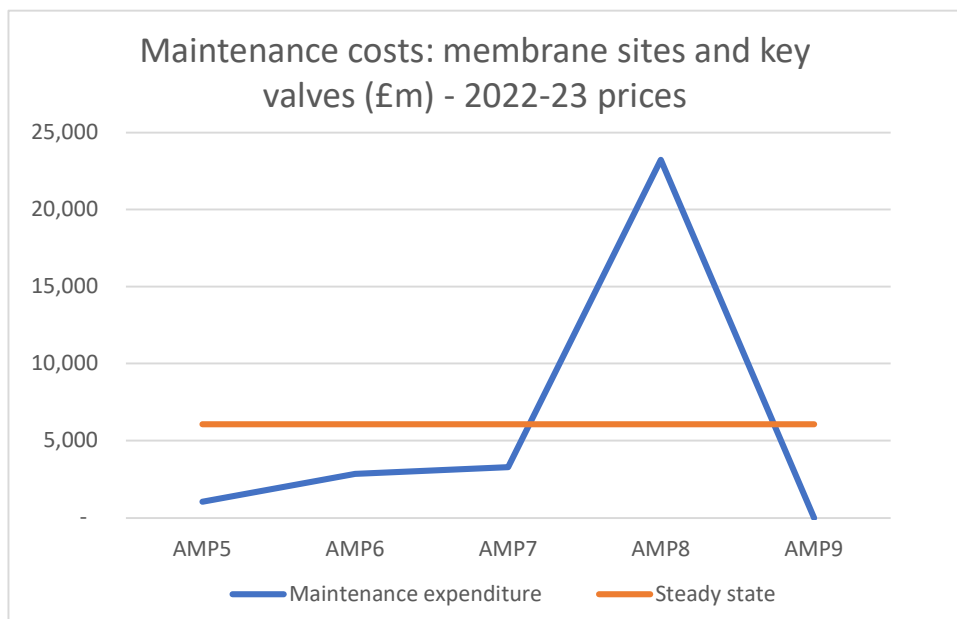
This cost adjustment claim arises as a result of the fact that Portsmouth Water is a small water only company and, as such, has a relatively small number of large assets. Given the long lives of these assets our optimal base maintenance programme shows significant variation between AMPs. In AMP8 we are facing a peak of this maintenance cycle which is not reflected in the modelled cost allowance. This is in contrast to the position at PR19 where, partly because we were at a low point in our investment cycle, our costs were materially below the Ofwat upper quartile efficient benchmark and were consequently subject to capping in the final determination.

Need for adjustment

The fact that the profile of maintenance expenditure can be lumpy is well understood and this is one of the reasons why Ofwat's base cost models are estimated over a long time period (from 2012 to 2023). However, the lumpiness of the maintenance expenditure profile is linked to the size of company and the number of key assets. Larger companies have more key assets and although maintenance needs will vary over time, this variation is correspondingly smaller than that faced by Portsmouth Water as a small company with a relatively small number of larger assets.

In AMP8 this lumpiness manifests itself in particular in the need to refurbish four of our membrane water treatment plants, as well as replace a number of key valves in our network. The chart below shows our historical and expected efficient maintenance and replacement profile in respect of these critical assets and compares it with the average 'steady state' maintenance these assets would require in each period. As can be seen from the chart, our maintenance and replacement profile is lumpy: our profile was below the steady state in AMP5, AMP6 and AMP7, but it is expected to be materially above the average in AMP8, before returning below the steady state in AMP9.

Figure 1. Profile of maintenance expenditure between AMPs



Ofwat base cost models rely on a panel dataset over 12 years to establish a relationship between the underlying cost drivers and an average 'steady state' level of maintenance and replacement. Therefore, the modelling approach will not identify the 'lumpy' nature of an actual maintenance programme for a particular company. As identified above this is a significant issue for a small water company like us.

One option for a water company would be to artificially smooth its maintenance expenditure, bringing forward some replacement projects or delaying others in order to achieve a smoother profile between each period. However, this would clearly not be in customers' best interests. Bringing forward maintenance would involve additional costs to be recovered from customers earlier than they are required. Delaying maintenance would pose a greater risk to performance and services to customers. The best option for our customers is to replace assets at the 'right time' and this is the approach that Portsmouth Water has taken.

Even for a small company such as Portsmouth Water the Ofwat core modelling approach should provide adequate funding over the long-term. In other words, the steady state allowance implied by the modelling would mean that we would be "underfunded" in some AMPs and "overfunded" in other AMPs. But, over the long term, this would broadly even out.

Because our submitted costs were materially below the modelled costs for AMP7, Ofwat applied a cap to our cost allowances of 10% (well below Ofwat's upper quartile benchmark). This reduced our AMP7 cost allowance by £11.36m (in 2022-23 prices)¹. We were the only company to which such a cap was applied. The cap was not applied to others in the industry who were higher than 10% of the Ofwat's benchmark.²

In order to manage the peaks and troughs in our maintenance requirements between AMPs we rely on receiving the steady state costs in each price control to receive sufficient funding over the long term. At PR19 and earlier periods, as Figure 1 above shows, we had a relatively low period in our maintenance and replacement profile, meaning our expected maintenance and replacement costs for AMP5, AMP6, and AMP7 were below the 'steady state' allowance implicit in Ofwat's modelled base costs.

For AMP8, we are reaching a peak in our maintenance and replacement cycle. With respect to the critical membrane plants and valves (see details below) that we need to replace in AMP8 we estimate that we will need to invest around £21.3m (in 2022-23 prices) over AMP8. This compares to the steady state level (based on the average over a number of AMPs) of £7.0m per AMP.

To respond to the situation we faced in PR19, we think there are two plausible and internally consistent approaches for dealing with the lumpy maintenance investment profile.

- Under the first approach Ofwat sets allowances based on its cost models to give a steady state maintenance allowance and does not cap any company when they are in a 'trough' of their maintenance profile. A company like Portsmouth Water would be underfunded compared to expenditure in some AMPs and over-funded in others but it should broadly even out.
- Under the second approach Ofwat applies a cap to the allowance when expenditure is well below the steady state (as it was for Portsmouth Water at PR19) but provides a cost adjustment allowance for the periods of unusually high maintenance for the company or companies that have been capped.

¹ Ofwat's final determination cost model for PR19. We have inflated to 2022-23 prices with CPIH inflation.

² <https://www.portsmouthwater.co.uk/wp-content/uploads/2020/02/PW-Response-to-Ofwat-Final-Determination-14-February-2020-FINAL.pdf>

Either approach is internally consistent and should, in principle, ensure the correct level of funding over the long-term. We note that the second approach has been applied to Portsmouth Water at PR19 and therefore this requires a cost adjustment for lumpy maintenance expenditure at PR24.

Given the rationale set out above, the quantification of our claim is explicitly linked to the extent of the capping applied at PR19. This capping reduced our allowed costs by £11.36m in 2022-23 prices. Our estimate of the amount of additional maintenance required in AMP8 is £14.3m, which is greater than the amount of the PR19 capping. The remaining investment over this amount (£2.9m) has either been covered by earlier 'overfunding' or will be covered by future 'overfunding' (assuming that further capping is not applied at PR29 or subsequently).

In terms of the classification of the claim, this relates to the 'other category'. While the maintenance expenditures are atypically large for Portsmouth Water, it is the timing of these investments not the scale in itself that is driving the claim.

The claim is not symmetrical. Ofwat's modelling approach should provide a steady state allowance that is sufficient for most companies. Portsmouth Water is the only company with a lumpy maintenance profile that has had a capped allowances at PR19 that is affected by this claim.

We consider the claim against Ofwat's guidance and criteria in more detail below.

Unique circumstances

As outlined above, the unique circumstances of this claim are as follows:

- We expect to reach a peak in our investment cycle at PR24, as shown in Figure 1 above. More details of the investment programme are provided below. The main driver is the need to refurbish four membrane filtration plants which will reach the end of their asset life during AMP8.
- Our maintenance and replacement profile is efficient (see below). When deciding about our maintenance and replacement activities we have undertaken our usual assessment of different options, which identified that these investments cannot be delayed further and they are the least cost options.
- Ofwat's methodology to estimate a steady state maintenance allowance that should cover the peaks and troughs in spending is not sufficient in the case of Portsmouth Water due to the capping of our totex allowance at PR19.

Management control

The lumpy nature of our investment profile is outside of management control and reflects a combination of the small number of assets we have (18 water supply works) and the age of these assets.

The need for additional investment in AMP8 is driven principally by the need to refurbish four of our membrane filtration plants at Fishbourne, Lovedean, Soberton and Itchen (comprising 87% of the additional AMP8 costs). These sites provide an average of 38 MI/d, constituting 21% of our distribution input. The need to invest is driven by the age of the assets, which were installed between 2003 and 2008 and have now reached the end of their life. Ultrafine membrane plants are installed as a control measure at these sites. These assets are now showing evidence of ageing which may lead to failure of the membrane plants. This presents an unacceptable future 'No Supply' risk on the four sites identified. Rehabilitation investment is required to mitigate the future risk identified at these assets.

Alternative options, including the option to delay, have been considered as part of our maintenance optimisation. However, in these cases delaying the refurbishment beyond AMP8 is not an option, as drinking water risk assessments have identified an unacceptable future 'No Supply' risk. Given the rural nature of the majority of Portsmouth Water's operational sites, a significant proportion of our catchments are comprised of agricultural land. Therefore loading of microbiological hazards and cryptosporidium oocysts is likely in many of our catchments. To date, one contravention (cryptosporidium) has occurred at the Soberton treatment works in January 2023.

In addition, investment is required to refurbish three critical Pressure Reduction Valves (PRVs) in Gosport, Hayling Island and Chichester and three flow control valves at Porchester, Racton and Boxgrove. Replacement of the PRVs, which cover supplies to 59,000 customers, is critical to avoiding bursts which impact leakage and supply interruptions. The flow control valves are essential in maintaining the resilience of our supplies to customers via our interconnectors.

Materiality

While the additional maintenance costs we expect to incur in AMP8 are c.£14.3m, the value of our cost adjustment claim is restricted to the value of the capping applied by Ofwat to our costs at PR19, which is £11.36m.

Based on our latest view of our net totex for AMP8 for the Network+ price control, this claim exceeds Ofwat's materiality threshold of 1%, being 3.5% of net totex.

Value of claim	£11.36m
Current estimate of AMP8 net totex	c.£320m
Materiality (% of net totex)	3.6%

The claim has been allocated 100% to the wholesale water network plus price control as the additional maintenance activities are focused on network plus assets (membrane plants and key network valves, see above).

Implicit allowance

As explained above, Ofwat's base cost allowance should be sufficient for Portsmouth Water's steady-state maintenance requirements. We have estimated that in AMP8 we will incur additional maintenance costs of £14.3m in respect of a small number of key assets, compared to the steady state. However, we have limited our claim to the value of the capping applied at PR19, £11.36m.

The implicit allowance is therefore the sum of the steady state totex allowance (£7.0m) and the difference between the excess maintenance spend and the PR19 capping (£2.9m).

Cost efficiency

As described above the requested cost adjustment has been limited to the level of the capping applied by Ofwat at PR19. The cap reflected the extent to which our costs were below the efficient level, as determined by Ofwat at PR19. Therefore, the amount that we are claiming for in this CAC is based on the assessment of efficient costs on the basis of Ofwat's own modelling. Therefore, cost efficiency has already been taken into account.

Nevertheless, the cost estimates for our maintenance programme are based on our own assessment of efficient costs. This has involved the following steps:

- We use investment optimisation techniques to ensure that the timing of maintenance activities is optimised in terms of balancing cost, performance and risk. For PR24 we are using Copperleaf investment planning tool.
- We use the best practice partnering and procurement to ensure efficient costs from our contractors and suppliers.
- Our cost estimates for the business plan reflect this internal expertise and input from our consultants. For example, we have worked extensively with Arcadis in the development of our AMP8 asset plan.

Need for investment

The need for the investment has been outlined above (see sections on 'need for adjustment' and 'management control'). In summary:

- Our maintenance and replacement profile is lumpy. This is because we are a small company with a relatively small number of larger assets.
- The need for additional investment in AMP8 is driven principally by the need to refurbish four of our membrane filtration plants at Fishbourne, Lovedean, Soberton and Itchen. These assets are now showing evidence of ageing which may lead to failure of the membrane plants. To date, one contravention (cryptosporium) has occurred at the Soberton treatment works in January 2023, illustrating that delaying investment is not an option.

Best option for customers

We consider that the approach we have taken to the maintenance of our assets has been the best option for our customers, providing the right balance of cost and service performance.

The alternative option would have been for us to artificially smooth the maintenance expenditure, bringing forward some replacement projects or delaying others in order to achieve a steady-state level in each period. However, we consider that this would not be the best option for customers. Bringing forward maintenance would involve additional costs to be recovered from customers, while delaying maintenance would pose a greater risk to performance and services customers. The best option for our customers is to replace assets at the 'right time' and, as outlined above, AMP8 is the right time for us to invest in these critical assets.

Customer protection

We have carefully considered customer protection in preparing this claim:

- The scale of the adjustment requested is based on efficient cost allowances, as calculated by Ofwat.
- The investment will protect customers against the risk of future service failures.
- We have considered whether a price control deliverable (PCD) would be required for this investment. Because the claim relates to base maintenance we do not consider that a separate PCD is required. Any delay in the investment increases the risk of service failures which are covered by existing performance commitments (in particular CRI, interruptions and outage).

Table commentary

In the Ofwat data table we have included historic expenditure related to the sites highlighted above, which require significant atypical investment in AMP8.

As explained above we have constrained the value of the CAC to the PR19 capping amount. As such, we do not include any adjustment for implicit allowances in the data table.

We have not completed any values in respect of 2022-23, 2023-24 and 2024-25 as all expenditure included within the CAC to be incurred in AMP8. The profile of the AMP8 expenditure has not yet been finalised. We have therefore spread the costs evenly between the five years of AMP8.